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THE ROLE OF SCIENCE AND TECHNOLOGY IN THE CONTEXT OF INTERNATIONAL  
SECURITY, DISARMAMENT AND OTHER RELATED FIELDS

International transfer of sensitive technologies

Working paper submitted by Argentina and Brazil

1. The growing importance of science and technology in the contemporary world and the prospects for their use in weapons of mass destruction make it advisable for all nations to join efforts to ensure the use of such knowledge for the well-being of mankind.
2. To that end, the international community should provide a highly relevant contribution by establishing a set of basic rules for the international transfer of sensitive technologies. Such rules must be based on respect for the legitimate interests and concerns of both supplier and recipient States. In this way they would enjoy the broadest support from the community of nations and form, ideally, a universal commitment to cooperation towards peace and development.
3. The complexity and sensitivity of the various aspects involved in international transfers in this field - e.g. the differing perceptions of specific questions related to security and the building of technological capabilities - validate the assumption that the establishment of basic rules will not be an easy task. None the less, there are reasons that recommend an effort by the international community to meet this challenge.
4. The first one is that existing international mechanisms aimed, in one way or another, at curbing the dissemination of the use of sensitive technologies for certain military purposes have not proved sufficient to ensure international security. This has been increasingly admitted even by those

States possessing advanced technologies and that are parties to the existing mechanisms. The risks inherent in the accumulation of arsenals with the immensely destructive power made possible by technological progress cannot but give rise to concern.

5. The fact that existing mechanisms are not enough to guarantee international security is related in part to the limited character of such mechanisms, whether as a result of their restricted membership or of the sectorial scope they attempt to regulate, or both. Among the instruments and mechanisms listed below, some stipulate commitments beyond the mere regulation of transfer, but they are mentioned because of their impact on such regulation:

(a) With respect to the vast scope of goods and technologies of military or dual use: Coordinating Committee on Multilateral Export Controls (COCOM), set up in 1949;

(b) With respect to nuclear technology: guidelines of the Nuclear Suppliers Group (NSG, or "London Group"); various multilateral legal instruments, such as the Treaty for the Prohibition of Nuclear Weapons in Latin America (Tlatelolco Treaty, 1967), the treaty on the Non-Proliferation of Nuclear Weapons (NPT, 1968) and the South Pacific Nuclear Free Zone Treaty (Rarotonga Treaty, 1985); and bilateral and multilateral agreements, such as those regarding safeguards entered into with the International Atomic Energy Agency (IAEA);

(c) With respect to the air/space sphere: "Missile Technology Control Regime" (MTCR), of 1987;

(d) With respect to technologies and products which may be used in the production of chemical weapons: informal mechanisms, among which the "Australian Group" (1984) stands out, and the negotiation within the Conference on Disarmament in Geneva of a convention on the prohibition of the development, production and stockpiling of chemical weapons and on their destruction, aimed at broadening the scope of the legal regime established by the 1925 Geneva Protocol, which only prohibits the use in war of asphyxiating, poisonous or other gases, as well as of bacteriological means of warfare;

(e) With respect to biological weapons: the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction, which entered into force in 1975.

6. The difficult application and doubtful effectiveness of the controls provided for in currently existing mechanisms indicate a need for rules on technological transfer for the strengthening of world security that are universal, transparent and predictable. The criteria would be intended to regulate the transfer of sensitive technology products, services and know-how, engaging the participants in a global system, through the institution of a series of measures for mutual control. It could thus be guaranteed that the use of internationally acquired sensitive technology products, services and know-how would also take place under appropriate safeguards.

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7. To aim at universality, and to prove capable of generating really effective international controls, the regulation of flows of sensitive technologies cannot fail to take account of the interest and need of a large number of States in enjoying access to those technologies for peaceful purposes. It seems fair to assume that the degree of adherence by the community of nations to rules intended to curb the use of sensitive technologies in weapons of mass destruction will be in proportion to the perception that such rules do not constitute an impediment, but rather an encouragement, to the dissemination of scientific and technological knowledge for peaceful purposes. From the standpoint of many States that seek to gain access to advanced technologies, the work of the currently existing mechanisms and arrangements is flawed in many cases by unilateral or discriminatory features.

8. Another reason why basic rules on international flows of sensitive technologies should be elaborated relates to the need for procedures for making the transfers of know-how consistent with the regulation of its use. Reconciling these two goals would open up new prospects for a system of broad, consensual and effective control. As regards the dissemination of know-how, the point is not to create an obligation of transfer free of charge, but to establish equitable, balanced and operationally clear norms that would favour access by the greatest number of countries to advanced technologies under a system of safeguards which strengthens the commitment of the acquiring country to the maintenance of international peace and security, in accordance with the Charter of the United Nations.

9. Scientific and technological knowledge has become a variable of increasing importance to the process of development. This awareness is of significant importance if that set of rules is to constitute a new and effective emerging standard of cooperation. The current international situation, marked by the new East-West relations and the aftermath of the recent conflict in the Gulf, has made the time particularly ripe for a constructive and innovative initiative in the field of international transfer of those technologies.

10. In that spirit it is suggested to the Disarmament Commission, at its 1991 session, that under the item entitled "The role of science and technology in the context of international security, disarmament and other related fields", universal parameters for international relations in the field of the transfer of sensitive technologies should be established multilaterally. As a contribution to the consideration of the matter, the annex to this document provides items which, in the form of draft guidelines, could form a first step towards the elaboration of universal rules on such transfers.

11. The importance of a multilateral debate on this subject was recently pointed out by the Secretary-General, who stated, in his report at the forty-fifth session of the General Assembly on the work of the Organization:

"It is, of course, vitally important to provide developing countries unimpeded access to the benefits of science and technology. This, however, should not mean that the quantitative arms race is replaced by a qualitative one and high-technology weapons are introduced that would destabilize regional and even global security. I would suggest that the international community make a special effort to clarify the important issues involved and produce clear and fair guidelines acceptable to all. This would remove a great deal of apprehension in a large number of countries that are affected by the supply policies currently applied by exporters of technology". 1/

12. In addition, as indicated by the Under-Secretary-General for Disarmament Affairs, Mr. Yasushi Akashi, on the occasion of the seminar held in Sendai, Japan, in April 1990, on science and technology and their implications for peace and security:

"A number of criticisms have been expressed regarding the alleged ineffectiveness and inequitable character of supplier restraints on high technology with military applications in nuclear, chemical, missile or other fields. Yet there is no uniformity of views on what types of approaches might be preferable to these existing endeavours, while there is a sentiment that a more universal approach such as that in the proposed chemical weapons convention has much to commend itself to a more restrictive approach". 2/

13. The discussion of this initiative in the framework of the Disarmament Commission does not rule its future consideration in other forums which have been empowered to negotiate the relevant international instruments, nor does it rule out the possibility that the development of the initiative could lead to the need for institutional arrangements for the implementation at an operational level of such norms as might be adopted.

#### Notes

1/ Official Records of the General Assembly, Forty-fifth Session, Supplement No. 1 (A/45/1), p. 20.

2/ Disarmament - Topical Papers 2, Science and Technology and Their Implications for Peace and Security (United Nations publication, Sales No. E.90.IX.8), p. 7.

Annex

DRAFT GUIDELINES

1. International transfer of high-technology products, services and know-how is essential for the economic and social development of all nations. It must also take into account legitimate requirements for the maintenance of international peace and security.
2. The growing possibility that sensitive technology products, services and know-how may be used for weapons of mass destruction makes it a priority to establish reliable and acceptable criteria to regulate international transfers in those areas, taking into account the right of all States to access to high technology for peaceful purposes.
3. Enhanced international cooperation in the area of science and technology strengthens confidence among States.
4. The existence of disparities of treatment in this area and the differing degrees of access to high technology may result in a deterioration of confidence among countries.
5. Efforts to maintain peace and security are strengthened more through the adoption of internationally accepted norms regarding the transfer of sensitive technologies than through concentrating high technology know-how in a handful of countries or through the practice of one-sided measures restricting such transfers.
6. Because sensitive technologies can be used both for peaceful purposes and for weapons of mass destruction, they cannot be defined as inherently harmful. It is in the intent or purpose underlying their utilization that such technologies may or may not have security implications.
7. A system of international controls over flows of sensitive technology products, services and know-how should be seen essentially as of a monitoring nature, and not as a mechanism for the restriction of legitimate transfers.
8. In establishing a balanced regulation of those transfers, it is necessary to avoid adverse effects on legitimate trade or restrictions on the use of those products, services and know-how for peaceful purposes. Otherwise, regulations would favour collateral transactions and would thus lose effectiveness.
9. The effectiveness of whatever norms and criteria may be adopted is largely contingent on their universal acceptability. It seems necessary to seek the adherence of the greatest possible number of States both on the side of supply and on that of demand. Effectiveness also depends on operational transparency, on the predictability of the rules to be applied and on the possibility of ensuring verification.

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10. By virtue of its universal nature, its responsibility in the field of disarmament and its primary duties in promoting peace and security as well as economic, social, scientific and technological development, the United Nations is an appropriate forum for the consideration of this issue.

11. With a view to laying the groundwork for a multilateral approach to international transfer in sensitive technology products, services and know-how the United Nations should prepare and maintain an inventory, as complete and updated as possible, of restrictions affecting such transfers. To that end, States should cooperate in conveying to the United Nations descriptive information on arrangements, laws and guidelines they apply in the regulation of these transfers.

12. The international community must make every effort to develop universal mechanisms for regulating these transfers, in accordance with the Charter of the United Nations and taking into account the requirements for the maintenance of international peace and security and for the economic and social development of nations.

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